

**ABSTRACT**

A process for hydroprocessing a hydrocarbon feedstock includes the steps of providing a hydrocarbon feed having an initial characteristic; providing a first hydrogen-containing gas; feeding the hydrocarbon feed and the first hydrogen-containing gas cocurrently to a first hydroprocessing zone so as to provide a first hydrocarbon product; providing a plurality of additional hydroprocessing zones including a final zone and an upstream zone; feeding the first hydrocarbon product cocurrently with a recycled gas to the upstream zone so as to provide an intermediate hydrocarbon product; and feeding the intermediate hydrocarbon product cocurrently with a second hydrogen-containing gas to the final zone so as to provide a final hydrocarbon product having a final characteristic which is improved as compared to the initial characteristic.